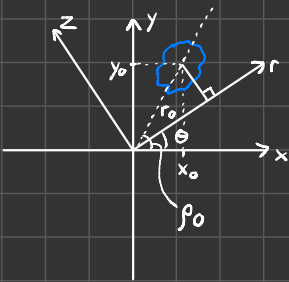


3.6)



$$\rho_0 = \arctan(x_0, y_0)$$

$$r_0 = \sqrt{x_0^2 + y_0^2}$$

$$\tilde{\rho}_\theta(r) = \rho_\theta(r - r_0 \cos(\theta - \rho_0))$$

$$= \rho_\theta(r - \sqrt{x_0^2 + y_0^2} \cos(\theta - \arctan(x_0, y_0)))$$

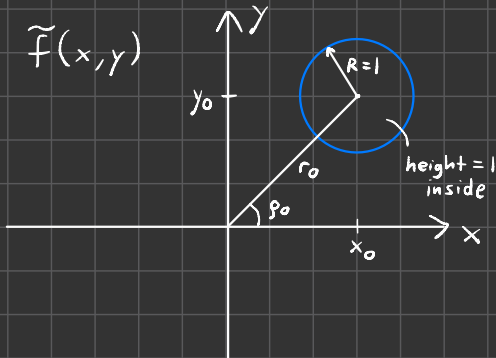
$$= 2\sqrt{1 - (r - \sqrt{x_0^2 + y_0^2} \cos(\theta - \arctan(x_0, y_0)))^2}$$

$$\text{rect}\left(\frac{r - \sqrt{x_0^2 + y_0^2} \cos(\theta - \arctan(x_0, y_0))}{2}\right)$$

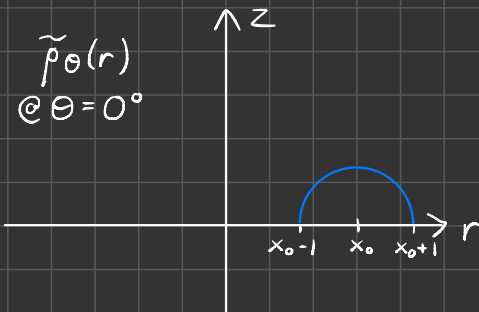
Jack Girard
ECE 637
Final Exam

3.7)

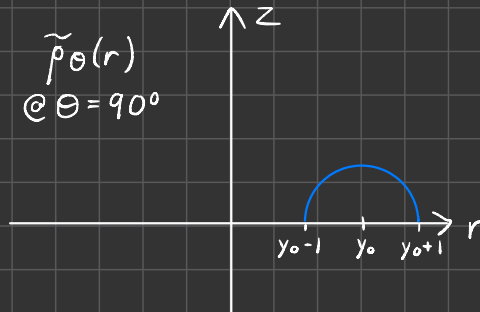
$\tilde{f}(x, y)$



$\tilde{\rho}_\theta(r)$
@ $\theta = 0^\circ$



$\tilde{\rho}_\theta(r)$
@ $\theta = 90^\circ$



etc...